was not more than their Prime Coſt; the dearneſs of keeping them near *London* neceſſitating the Cow keepers to buy the very beſt.

His Majeſty was further pleaſed, on the Sollicitation of the four Gentlemen, to grant a Brief fot the 24500 *l.* but the many falſe Reports that were then induſtriouſly propagated, to leſſen the value of thoſe poor Mens loſſes, ſo fruſtrated that Charity, that the entire Sum Collected (the charges of Collecting being firſt paid) was but 6278 *l.* 2 *s.* 6 *d.* which on a Dividend, amounted to *Five Shillings* and *Three Half Pence* in the Pound, computing their Loſs as above, at *Six Pounds per* Cow; tho' if we conſider their Contracts with Brewers for Grains, their Rent of Grounds which lay uſeleſs, Servants wages, *&c.* their real Loſs may (by a modeſt Computation) be allowed to be *Ten Pounds* for every Cow that died.

IV. *A Deſcription of the* Organ *of* Hearing *in the* Elephant, *with the Figures and Situation of the* Oſſicles, Labyrinth *and* Cochlea *in the Ear of that large Animal. Communicated to the* Royal Society, *by Dr.* Patrick Blair, *R. S. S.*

IN the Deſcription I formerly wrote to the Honour'd Sir *Hans Sloane*, Bart. of the *Elephant* I Diſſected in *Dundee*, *Anno* 1706. which he was pleaſed to Communicate to the *Royal Society*, as you have it in *Philoſ. Tranſ.* N°. 226 227. I treated of the Bony part of the Ear of that prodigious Animal a little too ſuperficially; becauſe I was unwilling at that time to break up the *Os Petroſum* of the right Ear, which had accidentally

been

been ſeparated on dividing of the Scull, by which the account I then gave of the *Linea Semilunares*, or *Labyrinth* and *Cochlea* was but Lame. But I have choſen ſince rather to deſtroy that Bone (however ſeldom ſuch Bones are to be met with) than that the Publick ſhould be depriv'd of an exact Deſcription of that curious Organe, and that I may give a clear Idea of all its Bony parts, I ſhall repeat what I formerly advanc'd upon that Subject, and add what Improvements I have made upon it ſince.

Before I proceed, 'tis fit I obſerve that the *Auris Externus* of this big Creature lyes flat, and not Protuberent as in other Quadrupeds, whoſe Cartilaginous Subſtance is capable of divers Motions perform'd by ſeveral Muſcles, whereby the inner Ear is preſerv'd from the great violence of the External Air, which upon ſome occaſions might perhaps injure or break the thin and delicate Membrane of the *Tympanum*. It is alſo for this reaſon that the *Meatus* is further guarded, by the Contorſions and oblique Poſition of the Cartilage at the Orifice of the *Meatus*, which only admits of a determinate quantity of Air, ſufficient for the vibration of the *Membrana Tympani*, by which a diſtinct ſound is convey'd to the *Senſorium commune*; whereas did the Air admitted exceed its due proportion, nothing but the confus'd Idea of a Sound would follow, ſuch as reſemble the ruſhing of Waters, *&c.* or that noiſe often obſerv'd when, by a ſupervenient Cold or the like, obſtructions are generated within the Ear it ſelf. And in Man, becauſe the *Auris externus* is alſo flat, not only are theſe turnings and windings obſervable in the Cartilage at the entry, but the *Meatus* it ſelf is likewiſe obliquely Situated, to prevent the aforeſaid inconveniencies. But there is no need for ſuch a contrivance in the *Elephant*, whoſe external Orifice of the *Meatus* is patulent, open (ſcarſe being guarded by the Cartilage) and ſtreight, whoſe length (it reaching from the external to the internal Table of the Scull) is ſufficient to prevent the acceſſion of too great a quantity of Air to the *Tympanum*; for in its progreſs moſt of the *Columnæ Aeris* beat againſt one or other of the ſides of the *Meatus*, in ſo much that their force is inhibited, and only ſo many as ſuffice to convey the Sound, can reach the *Tympanum* it ſelf.

Meatus Auditorius.

The *Meatus Auditorius* then is a long ſtreight Tube or *Canule* ſituated Horizontally, and reaching from the outer to the inner Table of the Scull, in Figure not unlike the Barrel of a Piſtol, but ſomewhat Oval, the ſides of whoſe Cavity are hard and ſolid, about the thickneſs of a Half-penny, from whoſe outer Part ſeveral of the *Laminæ* betwixt the two Tables of the Scull do ariſe, (*Fig.* I.) Its Cavity is an Inch or $\frac{3}{4}$ of an Inch Diameter, and length 9 $\frac{1}{2}$ Inches; being ſomewhat enlarg'd as it arrives at the *Crena* for the *Membrana Tympani*. (*Fig.* II.)

Crena and *Cavitas Tympani.*

This *Crena* is two Inches in Circumference, within which is the *Cavitas Tympani*, conſiſting of two different Surfaces; the one much deeper and Cellulous, the other more ſuperficial and Smooth. The firſt runs perpendicularly down $\frac{1}{2}$ Inch from the *Crena Tympani*. Its bottom is variouſly divided into ſeveral *Celluls*, not unlike a Hony Comb, but irregularly diſpos'd. Its Bony *Laminæ*, by which theſe Cellules are diſtinguiſh'd from each other, are thicker at the Top than at the Bottom, they being one Line, two Lines, or 1 $\frac{1}{2}$ Line diſtant from each other, and about $\frac{1}{4}$ Inch deep. Could I have got it ſo well cleans'd as I wiſh'd for, doubtleſs I might have obſerv'd their Communication with each other, by means of certain Orifices which ſerve to convey what ſuperfiuous Moiſture is contain'd in them for we may reaſonably ſuppoſe, as in all other Cavities of the Body, there are certain Glands for ſeparating proper Liquors convenient for the uſes deſign'd; ſo here there ſeems to be a neceſſity for ſeparating a certain quantity of Moiſture, fit to lubrifie the Muſcles of the Oſſicles, and facilitate their Motion; as alſo to preſerve the *Membrana Tympani* from becoming too dry. This dryneſs of the *Membrana Tympani,* and the thickneſs of the Liquor ſeparated by theſe Glands, is often the cauſe of a Deafneſs in Human Subjects; eſpecially thoſe that are advanc'd in Age. This cellulous Structure of the *Cavitas Tympani,* ſeems to be very proper for receiving of the ſuperfluous Humidity; and theſe Communications are requiſite for conveying it from one Cellule to another, till it is emptyed into the *Receptaculum Commune* the *Aqueduct*, whereof hereafter.

This firſt or cellulous Cavity is two Inches broad, and reaches from the *Crena Tympani* to the *foramen Ovale*, or entry into the *Veſtibulum*, which is ſhut by the *Stapes.* The ſecond Part of this Cavity is more ſuperficial (*Fig.* II. (*e*), in form not unlike a Pear, from a narrow beginning becoming broader and more ſuperficial, terminating Semicircularly, ſmooth in the Bottom, and having ſeveral incurvated Lines running acroſs it; it reaches much farther than the *Veſtibulum*, being one Inch five Lines from before to behind, and one Inch tranſverſly where broadeſt. What ſuperfluous Moiſture it contains is diſcharg'd into the fore-named Aqueduct.

Beſide the above-mentioned uſes for theſe two Cavities, *viz.* to receive and diſcharge the ſuperfluous Moiſture; they are alſo moſt beneficial and aſſiſting to the Hearing: for, no ſooner is the external Air modulated, and the *Membrana Tympani* mov'd thereby,

than

than the Sound is conveyed by the *Oſſicles* to the *Nervus Auditorius*, and the Undulation continued, firſt by the *Anfractuoſities* of the firſt Cavity, and then by the *Gyres* and incurvated Lines of the ſecond, ſo that we may eaſily account for the acute Senſation of Hearing, wherewith *Elephants* are ſaid to be endow'd: For as the Tame ones are moſt exact in obeying their Maſters commands; ſo the wild Ones are ſoon aware of what Traps or Snares are laid to catch them, by the tremulous Motion convey'd to their Ear from the Cavous parts of the Earth, where the Pit into which it is expected they ſhould fall, is digg'd. It is eaſy therefore to explain whence the acuteneſs of the Senſation of this Animal may proceed; for as the *Nervus Olfactorius* has a large Space and Bounds wherein to be diſpers'd, *viz.* the two Cavities of the *Proboſcis*, which are both long and large, ſo that ſcarce any *Columna aeris* can enter them, but ſome one or another of the Filaments of the *Nervus Olfactorius* diſpers'd in theſe Cavities muſt be toucht, whereby the Idea of ſmelling muſt be conveyed to the *Senſorium commune* in a more intenſe Degree, and the Animal ſoon become ſenſible of whatever approaches that is noxious or nauſeous to it, and thereby is taught how to avoid it; ſo this Structure, for a quick conveyance and long continuance of the Sound, is a great means both to make the *Elephant* ſoon receive the Sound and have a deep impreſſion of it.

The Aqueduct.

The *Aqueduct* is a flat Tube or Pipe, whoſe Orifice is ſo ſituated betwixt the two forementioned Cavities, that if there be any ſuperfluous Humidity contain'd in them, it muſt needs be diſcharg'd (at leaſt in this Animal) into the Mouth; for as it is ſituated where the firſt Cavity terminates, ſo the ſecond, from a broader and more ſuperficial beginning muſt needs diſcharge its Moiſture, by its more narrow and deeper termination, into this receptacle; alſo it deſcends directly towards the Mouth, paſſing through the Scull below the hole for the Jugular Vein (*mm*) betwixt the hole for the *Carotid* Artery, (*pp*) and that for the *Arteria duræ matris* (*q q*) whence deſcending (*nn*) it is joyn'd with its Fleſhy part, which diſcharges it ſelf into the Mouth on each ſide, behind the back part of the inner Teeth of the upper Jaw. This ſituation of the Aqueduct makes it plainly appear, that its Uſe is to receive the ſuperfluous Moiſture from the *Cavitas Tympani*; for beſide the Glands above-mentioned, fit for ſeparating ſuch a quantity of Humidity as may lubrifie the Muſcles, and facilitate both their Motion and that of the *Oſſicles*; the very Vapours that ariſe in ſuch a Cavity as that of the *Tympanum* in this Animal, muſt at laſt be converted into a Liquor, and that muſt either again be receiv'd into the Blood Veſſels, or otherwiſe diſcharg'd by ſuch a Receptacle as this. Further if there be a neceſſity for Glands in the *Meatus Auditorius* without the *Tympanum*, to ſeparate a certain Liquor, by which the acrimonious Particles of the Air are obtunded, and hindred from being offenſive to the Nervous Membrane of the *Tympanum*, (which muſt be of a moſt acute Senſation) and for moiſtning it, by which it the more eaſily receives the Vibration of the Air; ſo ſuch Glands as theſe ſeem to be moſt requiſite in the *Cavitas Tympani* for the Uſes above nam'd. And ſince what ſuperabounds of this Moiſture, cannot be diſcharg'd outwardly as that of the *Meatus*, this Aqueduct ſeems to be moſt convenient for that purpoſe. Some are of opinion that this Aqueduct is alſo aſſiſting to the Hearing, eſpecially in Men; becauſe it is generally obſerv'd

Oſteographia Elephantina, or *Philoſ. Tranſact.* No. 327. Tab. 3. Fig. 3.

that they who are Deaf, open their Mouths wide, when they are deſirous to hear more diſtinctly: But I ſee not how that can be, for tho' the Cavity of the Bony part of the Aqueduct, in moſt of Animals, is proportionally large enough; yet its carnous or fleſhy Part lyes for the moſt part ſo flat, and its two ſides are ſo collaps'd together, that ſcarce any Air can be admitted, at leaſt ſo far as to be ſubſervient to the Hearing.

The four Bones of the Ear.

The *Oſſicles* in this as in other Animals are three or rather four in number; for though I did not procure the *Os quadrangulare* of *Du Verney*, yet I have good reaſon to believe it was there; becauſe there is a conſpicuous *Sinus* in the extremity both of the *Incus* and *Stapes*, where they are articulated, ſo big as to contain the Head of an ordinary Pin; and when I conſider the Angle which muſt have been form'd by the articulation of theſe two Bones, I look upon this ſmall Bone to ſerve for the ſame purpoſes as the *Patella* in the Knee, and *Seſamoide* Bones in the Fingers and Toes.

The Malleolus.

The *Malleolus* is an irregular Bone, and doubtleſs has been endow'd with pretty large Muſcles, becauſe of the rugoſities, protuberances and *Sinus*'s obſervable in it. It has a protuberant Head (*Fig.* IV. (1) four Lines broad, next to that a *Crena* or ſemicircular *Sinus*, (2) after which the Bone is rais'd, affording a protuberant Margin to an oblong *Sinus* (3) for receiving the head of the *Incus*, four Lines broad. The oppoſite part of this *Sinus*, or back part of the Bone, is convex of an unequal rugous Surface, with a great many protuberances and depreſſions, for the Origins and inſertions of the Muſcles, for the ſpace of five Lines; where it forms an Angle, from whence it becomes Flat and Smooth, being three Lines broad and reaching four

Lines to another Angle, (5.) where the *Manubrium Malleoli* begins, and where it becomes more round; from whence it gradually Tapers to the Point, being ſix Lines in length.

The head of the *Incus* is four Lines broad, (*Fig*. VI. (1) below which is the Neck or an oblique *Sinus*; (2) next to that are two *Apophyſes*, one on each ſide. Theſe deſcending obliquely outwards, and becoming flat, meet in a Point, (*Fig*. VII. (5.) whence aſcending obliquely inward, this Production is join'd to another ſmall round one, like the *Manubrium Malleoli* 4½ Lines long (6.) This has the fore-mentioned ſmall excavation or half round *Sinus*, (7.) which with the extremity of the *Stapes*, I ſuppoſe to have contain'd the *Os quadrangulare*, or rather *Orbiculare*, according to the Figure of the *Sinus*.

The *Stapes* differs much in Figure from the Human one. From its Concave extremity 'tis enlarg'd on each ſide by two ſmall ſlender Productions, not unlike the Proceſſes of the *Vertebræ* of ſome Fiſhes (*Fig*. VI. (2 2) to which is join'd the *Baſis*, (3.) ſo thin almoſt as the Scale of a Fiſh. This was accidentally ſeparated from its two Sides, and remain'd in the *Foramen Ovale*, from whence I pull'd it with a Pin; 'Tis Concave towards the *Stapes*, and Convex toward the *Veſtibulum*.

The *Foramen Ovale* lyes ſo hid and obliquely in the ſide of the *Cavitas Tympani*, that it could not be delineated in its true Dimenſions. Near to it is another hole Oblong and Sharp at both ends, both which give an entry into the *Veſtibulum*.

The *Veſtibulum* is of an irregular Figure, (*Fig*. X. (*a*) 'tis for the moſt part three Lines from the one ſide to the other, and perforated by eight Orifices, *viz*. five for the Canals of the *Labyrinth*, (*Fig* IX. X (*a*) one for the *Cochlea*, (*Fig*. X. (*h*) and two for the *Feneſtræ* (*b*, *c*.)

The *Cochlea* is a long Cavity conſiſting of three *Gyres* or *Meanders*; (*Fig*. XI. (*d e f*) Its Orifice where it proceeds from the *Veſtibulum* is but ſmall; but it afterwards widens, ſo that the firſt courſe of this Cavity is a third part larger than the ſecond (*e*), and proportionally the third is leſs than the other two (*f*), till it terminates in an Orifice (*g*) ſituated in the Top, for receiving a branch of the ſoft portion of the *Nervus Auditorius*, which accompanies and paſſes along all its *Gyres*.

The hardneſs and ſolidity of the Bone (for which it may be juſtly called *Os Petroſum* in this Subject) was ſuch that I could not ſo exactly trace the three Canals or Ducts of the *Labyrinth*, ſo as to give a true Idea of the manner of their ſeveral Turnings. But *Valſalva*'s Figures of the Humane Ear directed me ſo exactly, that I eaſily found out the ſeveral Orifices, and opened them ſo far as to find out their ſituation and true Dimenſions, by introducing a Hogs briſtle, then cutting it off and ſtretching it out to the Scale. Thus after laying open the two *Foramina* which gave an inlet to the *Veſtibulum*, I ſoon perceiv'd the ſeveral Orifices which in ſo large a Subject were pretty conſpicuous. I firſt turn'd to the one hand and diſcovered the *Duct* of the *Cochlea*; this I purſued all along the Protuberance, (*Fig*. III. (*d*) in doing of which I laid wholly open the *Leſſer Duct* of the *Labyrinth*. (*Fig*. IX. X. (*d*) Then turning up the other ſide of the Bone, I trac'd the ſoft Portion of the *Nervus Auditorius* divided into two Branches, one whereof was diſtributed into the *Cochlea*, and the other to the *Labyrinth*. In filing the Bone a little further, I opened a ſmall part of the *Middle Duct*, and in a ſhort time I diſcovered the *Ductus*

Major; after which I meaſured their ſeveral lengths as is ſaid.

Labyrinth.

The *Labyrinth* then conſiſts of three *Lineæ Semilunares* or incurvated *Ducts*, whereof the *Major* lyes in that part of the *Proceſſus Petroſus* which regards the ſeat of the Brain (*b*) This is twenty Lines or one Inch eight Lines long. The *Medius Ductus*, one part whereof regards the Orifice of the *Cochlea*, and the other is common with the *Major* for the ſpace of three Lines; (*e*) this is fifteen Lines or one Inch three Lines long: And the *Minor* which regards the *Cavitas Tympani*, has one Orifice which is near to the *Medius*, were it approaches the *Cochlea*; and the other near to the Orifice of the *Major*. This is one Inch long.

Oſteog. Eleph. Tab. 3. Fig. III. Fig. IV.

The ſeventh pair of Nerves called in general the *Nervus Auditorius*, enters the *Proceſſus Petroſus*, and is divided into the hard and ſoft Portions, as in other Animals. In this Subject I find one Canule entring the Bone from the ſides of the Orifice for the *Carotide* Artery, about three Lines diameter, (*e*) (*h*) from thence running forward for the ſpace of one Inch four Lines, then bending downwards one Inch till it meets with the Orifice at the Sides of the *Meatus Auditorius*, by which it pierces the Scull, and paſſes outward. This Canule, after it is entred the *Proceſſus Petroſus* for the ſpace of eight Lines, communicates with the Orifice which uſually enters the foreſaid Proceſs from the Baſe of the Scull; and both theſe Orifices, after they have accompany'd one another about five Lines, are ſeparated, and the ſoft Portion penetrates the Bone at two places, as is ſaid.

I have now endeavoured to give ſuch a Deſcription of the *Oſſeous* or Bony part of the Ear of this ſtupendious Animal, as I am in hopes may be uſeful for the clearing up of ſome *Phænomena* in leſſer Subjects. At leaſt we may hereby obſerve, what a variety of Mechaniſm the great Author of Nature has thought fit to employ, in the ſeveral parts of different *Species* of Animals. Thus both the external Ear of Man, and of the *Elephant* lye flat, as being moſt convenient: for if they had been Protuberant as in moſt Quadrupeds, how unſuitable would it have been in Man, who is the moſt perfect of all Creatures, not upon the account of his Reaſon alone, but alſo as he is a Pattern for Beauty and the Symmetry of his Parts; and how unſeemly would it have been in the *Elephant*, if his external Ear had ſtuck out, and been proportional to his other Parts; conſidering what an extraordinary aſpect he makes already by his Trunk and Tusks? But the Ears in theſe two Subjects differ by the tortuoſity of the Cartilage, and oblique *Meatus*, to prevent the injury of the Air, by its immediate acceſs into the inner Ear in Man: whereas in the *Elephant* the external Orifice is fully expos'd to the Air; but then the length of the *Meatus* hinders any more Air than is convenient from arriving at the *Tympanum*. We likewiſe ſee in the *Seal* and *Otter*, that thoſe two Amphibious Quadrupeds have no external Ear further protuberant than the other Parts of their Head; for had it been otherwiſe, their ſwimming and diving would have been much hindred: But its two ſides are ſo collaps'd, that no Water can enter in when in the Deep, though it can receive ſufficient Air when aſhoar. The cellulous Cavity of the *Tympanum* in the *Elephant*, may well be compar'd to the *Apophyſis Maſtoides* in Man; and the ſecond Cavity of a plain Surface ſeems to be Analogous to the Cavous *Maſtoides* in *Sheep*, *Cats*, *Dogs*, *&c.* So that we ſee that whereas other Animals have but one Cavity for aſſiſting the Vibration of the Air, and continuation of the

Sound in the *Tympanum*; this Animal has two, or a large one with two different Surfaces. The Aqueduct both by its Figure and Poſition in this Animal doth plainly ſhew us the Uſe of it in other Animals, which is to receive the ſuperfluous Humours in the *Tympanum*, and convey them to be diſcharg'd in the Mouth.

Explication of the FIGURES.

Figure I.

R*epreſents the Bony part of the* Meatus Auditorius *of the Right Ear.*

a *The external Orifice of the* Meatus Auditorius.

b *The* Proceſſus Petroſus.

c *The Orifice where the* Nervus Auditorius *enters.*

d *The* Meatus Auditorius.

e *A part of the* Laminæ *which proceed from it on each ſide, by which the* Cellules *betwixt the two Tables of the Scull are form'd; thoſe ſituated above the* Meatus *being remov'd.*

f *Part of the inner Table of the Scull.*

Fig. II.

Repreſents part of the Meatus Auditorius *opened, with other parts of the inner Ear.*

a *The ragged part of the Bone from whence the* Os Petroſum *was ſeparated.*

b *The* Proceſſus Petroſus *opened.*

c *The* Crena *for the* Membrana Tympani.

d *The Hony comb Cavity of the* Tympanum.

e *Its inner Cavity of a ſmooth Surface.*

f *Its Semicircular or undulated Lines.*

g *The Orifice of the Aqueduct.*

h *The Orifice of the hard Portion of the* Nerve.

Fig. III.

Repreſents the lower Surface of

of the Os Petroſum, *as it was ſeparated from above the* Tympanum *and other parts of the inner* Ear.

aa *The ragged Margine of the Bone.*

bb *The upper part of the* Cavitas Tympani.

c *The* Foramen Ovale.

d *The Protuberance in which the* Labyrinth *and* Cochlea *are lodg'd.*

e *The Orifice of the hard portion of the* Nervus Auditorius.

Fig. IV.

Repreſents the Malleolus *alone in its true dimenſions*

1 *The Protuberant Head.*

2 *The Semicircular* Sinus *betwixt it and the Margin*

3 *The* Sinus *which receives the head of the* Incus.

4 *The angle below the* Sinus *for the head of the* Incus.

5 *The angle where the* Manubrium Malleoli *begins.*

6 *The* Manubrium Malleoli.

Fig. V.

Repreſents the Incus.

1 *The head of the* Incus.

2 *The* Sinus *or neck of the* Incus.

3 *Two* Apophyſes.

4 *A long protuberance with the* Sinus *for the* Os quadrangulare *at its extremity.*

Fig. VI.

Repreſents the Stapes.

1 *The ſmall part of the* Stapes, *where it is articulated with the* Incus, *with a* Sinus *at its extremity, being the other half of the Cavity for the* Os quadrangulare.

2 2 *Two ſmall portions of the* Stapes, *where it is articulated with the* Baſis.

3 *The* Baſis *of the* Stapes *ſeparated.*

4 *The whole* Stapes.

Fig. VII.

The Malleolus *and* Incus *join'd together, with their lower ſide turn'd up.*

1 *The* Malleolus.

2 *Its articulation with the* Incus.

3 *The* Incus.

4 *The* Manubrium Malleoli.

5 *A point of the* Incus, *fram'd by the other two Productions.*

6 *The long protuberance of the* Incus.
7 *The* Sinus *in the extremity of its long Production.*

Fig. VIII.

The Malleolus, Incus *and* Stapes *articulated together.*

1 *The* Incus.
2 *The* Malleolus.
3 *The* Stapes *where it ſhuts the* Foramen Ovale.

Fig. IX.

Repreſents the upper part of the Lineæ Semilunares, *or that ſide which is towards the paſſage of the* Nervus Auditorius.

a *The five extremities cut off.*
b *The* Linea Semilunaris Major.
The Semilunaris Media
d *The* Minor.
e *The common Canule between the* Major *and* Media.

Fig. X.

Repreſents the Cochlea *and* Labyrinth *together.*

a *The* Veſtibulum.
b *The* Foramen Ovale.
c *The* Foramen Oblongum.
d *The* Linea Semilunaris Minor, *which is towards the* Cavitas Tympani.
e *The common Canule to the* Major *and* Media.
f *The* Major.
g *The* Media
h *The* Cochlea.

Fig. XI.

Repreſents the Cochlea.

a *The* Veſtibulum.
b *The third* Gyre *or turning.*
c *The Orifice.*
d *The firſt* Gyre *or turning opened.*
e *The ſecond turning.*
g *The Orifice at the top of the* Cochlea.

FINIS.

ERRATA. N°. 357. Pag. 847. lin. 22. lege ab *h* 11'. 32''. pag. 885. lin. 27. lege N°. 326. 327.

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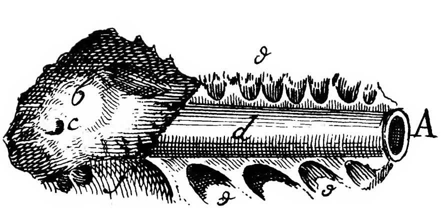
Fig, 1,



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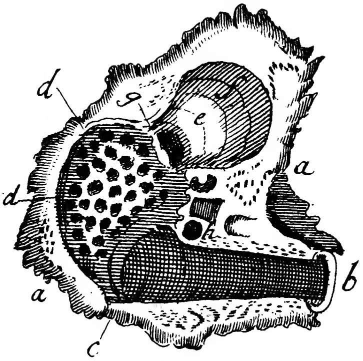

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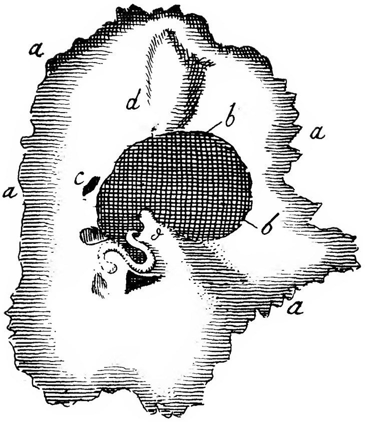

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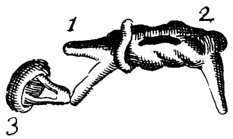

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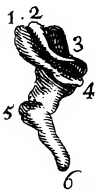

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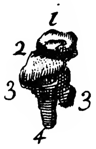

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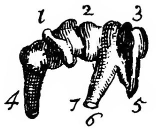

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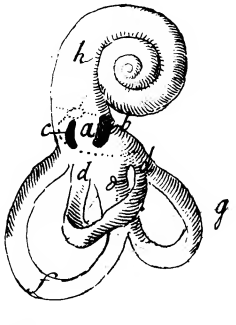

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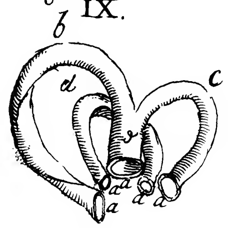
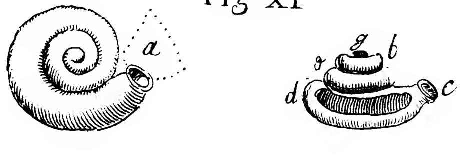


Fig XI



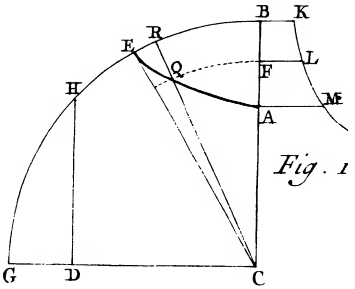


Fig. 1.

Fig. 2.